

Customer No.: 31561
Application No.: 10/711,377
Docket No.: 13159-US-PA

AMENDMENT

Please amend the application as indicated hereafter.

To the Claims :

1. (original) A method of fabricating an image device, comprising the steps of:
 forming a silicon-on-insulating layer over a substrate, the silicon-on-insulating layer having a first surface and a second surface in contact with the substrate;
 forming an image sensing device layer over the first surface of the silicon-on-insulating layer;
 disposing a first substrate over the image sensing device layer;
 lifting off the first substrate, the image sensing device layer and the silicon-on-insulating layer from the substrate so as to expose the second surface of the silicon-on-insulating layer; and
 forming an optical device array over the second surface of the silicon-on-insulating layer.
2. (original) The method of claim 1, further comprising a step of disposing a second substrate over the optical device array.
3. (original) The method of claim 1, further comprising a step of forming a spacer over the second surface of the silicon-on-insulating layer and a step of disposing a second substrate over the spacer after the step of forming the silicon-on-insulating layer over the substrate.
4. (original) The method of claim 1, further comprising a step of removing the first

Customer No.: 31561
Application No.: 10/711,377
Docket No.: 13159-US-PA

substrate in order to expose the image sensing device layer after the step of forming the optical device array.

5. (original) The method of claim 4, further comprising a step of electrically connecting the image sensing device layer to a printed circuit board after the step of removing the first substrate. .

6. (original) The method of claim 5, wherein the step of electrically connecting the image sensing device layer to the printed circuit board comprises the steps of:

forming a re-distribution layer over the image sensing device layer; and
electrically connecting the re-distribution layer to the printed circuit board.

7. (original) The method of claim 6, wherein the step of electrically connecting the re-distribution layer to the printed circuit board comprises the steps of:

performing a bumping process to form a plurality of bumps over the re-distribution layer, wherein each bump is electrically connected to the re-distribution layer, respectively; and

electrically connecting the bumps to the printed circuit board.

8. (original) The method of claim 1, wherein a material of the first substrate and the second substrate comprises glass.

9. (original) The method of claim 1, wherein the step of forming the optical device array over the second surface of the silicon-on-insulating layer comprises the steps of:

forming a plurality of color filters over the second surface of the silicon-on-insulating layer; and

forming a plurality of condenser, wherein each condenser is disposed over one of

Customer No.: 31561
Application No.: 10/711,377
Docket No.: 13159-US-PA

the color filters.

10. (original) The method of claim 9, wherein the condensers comprise a plurality of micro-lenses.

11. (original) The method of claim 1, wherein the step of forming the image sensing device layer comprises the steps of:

forming an active layer over the first surface of the silicon-on-insulating layer, wherein the active layer comprises at least one sensing device therein;

forming an interconnection layer over the active layer, wherein the interconnection layer is electrically connected to the sensing device; and

forming a plurality of bonding pads over the interconnection layer, wherein each bonding pad is electrically connected to the interconnection layer.

12. (original) The method of claim 11, wherein the sensing device comprises at least one photo diode.

13. (original) The method of claim 1, further comprising a cutting process for forming a plurality of image sensor units after the step of forming the optical device array.

14-22. (cancelled)